CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO.

FOR
STATE OF CALIFORNIA, DEPARTMENT OF PARKS AND RECREATION
CALAVERAS BIG TREES STATE PARK
WASTEWATER TREATMENT FACILITY
CALAVERAS COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring treated effluent, septic tanks, leachfields, sprayfields, and groundwater. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. Regional Board staff shall approve specific sample station locations prior to implementation of sampling activities.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated per the manufacturer's recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

SEPTIC TANK MONITORING

The Discharger shall monitor all septic tanks at all eight wastewater treatment and disposal systems within the park (i.e., North Grove, Mumbert House, Residences, Oak Hollow Campground, etc.) and report this information in the annual reports. Septic tanks shall be inspected annually as described below.

Parameter	Units	Type of Measurement	Minimum Inspection	Reporting Frequency
Sludge depth and scum thickness in the first compartment of each septic tank [1]	Feet	Staff Gauge	Annually	Annually
Distance between bottom of scum layer and bottom of outlet device [1]	Inches	Staff Gauge	Annually	Annually

Distance between top of sludge layer and bottom of outlet device [1]	Inches	Staff Gauge	Annually	Annually

[1] The Discharger shall visually inspect the tanks for signs of damage, leakage, or deterioration

The Discharger shall retain records of each inspection, by facility, noting the date, measured readings and calculations. The Discharger will also record when cleaning is required, the condition of the tank, and the date that cleaning or repair occurred and by whom. Copies of the Liquid Waste Hauler manifests shall be retained for review as with any other record concerning documentation of compliance with the Order. The cumulative volume removed from each facility shall be reported annually.

EFFLUENT MONITORING

The Discharger shall conduct effluent monitoring of the wastewater exiting the North Grove septic tank. Samples shall be collected from the clear well prior to discharge to any disposal area. Effluent monitoring shall include, at a minimum, the following:

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Total Flow to disposal areas	gpd	Meter	Daily	Monthly
Flow to existing leachfield	gpd	Estimated[2]	Daily	Monthly
Flow to new leachfield	gpd	Meter[1]	Daily	Monthly
Flow to sprayfield	gpd	Meter[1]	Daily	Monthly
Total Coliform Organisms[3]	MPN/100mL	Grab	Weekly	Monthly
BOD_5	mg/L	Grab	Monthly[4]	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly[4]	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly[4]	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly[4]	Monthly
Zinc	mg/L	Grab	Monthly[4]	Monthly
Ammonia	ug/L	Grab	Monthly[4]	Monthly
Phenols	ug/L	Grab	Monthly[4]	Monthly
Formaldehyde	ug/L	Grab	Monthly[4]	Monthly
Standard Minerals[5]	mg/L	Grab	Annually	Annually

[1] From flow meter readings
[2] From flow meter or other flow measuring device
[3] Monitoring for Total Coliform Organisms shall occur only when discharge to the sprayfield occurs.
[4] Samples shall be collected monthly for the months of May through October; however, for the months of November through April, samples shall be only collected in January and March.
[5] Standard Minerals shall include, at a minimum, the following elements and compounds: boron, calcium, iron, magnesium, manganese, sodium, potassium, chloride, sulfate, total alkalinity (including alkalinity series), and hardness.

LEACHFIELD AREA MONITORING

The Discharger shall conduct a visual inspection of each leachfield within the park on a weekly basis between the months of May through October of each year. For the months of November through April, the leachfields shall be inspected on a semi-monthly basis (i.e., twice per month). Results shall be recorded and submitted with the monthly monitoring report. Photocopies of entries into an operator's log are acceptable. Evidence of surfacing wastewater, erosion, field saturation, runoff, or the presence of nuisance conditions shall be noted in the report. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids. In addition to the visual inspections, monitoring of the North Grove existing and new leachfields shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Wastewater Application Rate[1]	gal/acre•day	Calculated	Monthly	Monthly
Leachline Riser Inspection[2, 3]	Inches	Measurement	May through October, January, March	Monthly

[1] The application rate for each leachfield
[2] The Discharger shall measure and record the distance from the surface of the liquid in the observation port to the surface of the ground in the active lateral(s). In addition, the Discharger shall record when lateral distribution lines are switched.
[3] Monitoring of leachline riser pipes is only required for the new leachfield.

SPRAYFIELD AREA MONITORING

Monitoring of the sprayfield areas shall be conducted **daily** when the area is used, and the results shall be included in the monthly monitoring report. Evidence of erosion, saturation, irrigation runoff, or the presence of nuisance conditions shall be noted in the report. Effluent monitoring results shall be used in calculations to ascertain loading rates at the sprayfield. Monitoring shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow	Gallons	Continuous	Daily	Monthly
Rainfall	Inches	Observation	Daily	Monthly
Acreage Applied [1]	Acres	Calculated	Daily	Monthly
Wastewater Application Rate [2]	gal/acre/day	Calculated	Daily	Monthly

[1] Land application areas shall be identified.
[2] For each land application area.

At least **once per week** when the spray disposal areas are being used, the entire sprayfield area shall be inspected on the morning following an irrigation event to identify any equipment malfunction or other circumstances that might allow irrigation runoff to leave the irrigation area and/or create ponding conditions that violate the Waste Discharge Requirements. A daily log of these inspections shall be kept at the facility and made available for review upon request. If the spray disposal areas are not used, then the monthly monitoring reports shall so state.

GROUNDWATER MONITORING

Beginning with the **Fourth Quarter of 2006**, the Discharger shall conduct the following groundwater monitoring program. Prior to construction of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP, and shall be sampled and analyzed according to the schedule below.

Because of the high elevation of this facility, groundwater samples need only be collected during the second, third, and fourth quarters each year. Prior to sampling, groundwater elevations shall be measured and the wells shall be purged of at least three well volumes or until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 foot. Water table elevations shall be calculated and used to determine groundwater gradient and direction of flow. Samples shall be collected using approved EPA methods. Groundwater monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling and Reporting Frequency[4, 5]
Groundwater Elevation[1]	0.01 Feet	Measurement	Quarterly
Depth to Groundwater	0.01 Feet	Calculated	Quarterly
Gradient	Feet/Foot	Calculated	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly
Coliform[2]	MPN/100mL	Grab	Quarterly
PH	Standard Units	Grab	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly
Nitrates as Nitrogen	mg/L	Grab	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly
Formaldehyde	mg/L	Grab	Quarterly
Ammonia	mg/L	Grab	Quarterly
Zinc	mg/L	Grab	Quarterly
Phenol	mg/L	Grab	Quarterly
Standard Minerals[3]	mg/L	Grab	Annually

[1] Groundwater elevation shall be based on depth-to-water using a surveyed measuring point elevation on the well and a surveyed reference elevation.
[2] Using a minimum of 15 tubes or three dilutions
[3] Standard Minerals shall include, at a minimum, the following elements and compounds: boron, calcium, iron, magnesium, manganese, sodium, potassium, chloride, sulfate, total alkalinity (including alkalinity series), and hardness.
[4] Beginning with Fourth Quarter 2006
[5] Samples need only to be collected during the second, third, and fourth quarters of each year.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, leachfield, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed and stamped by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board on the **1st day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1. Results of effluent, leachfield areas, and sprayfield monitoring;

2. After 31 December 2006, whether an emergency occurred that required that wastewater be disposed of at the original North Grove leachfield, and if so, a description of the emergency and how it will be prevented in the future;

3. Whether the sprayfield was used;

4. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;

5. If requested by staff, copies of laboratory analytical report(s); and

6. A calibration log verifying calibration of all hand held monitoring instruments and devices used to comply with the prescribed monitoring program.

B. Quarterly Report

Beginning with the Fourth Quarter 2006, the Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months for the second, third, and fourth quarters of the year. Quarterly monitoring reports shall be submitted to the Board by the **1st day of the second month after the quarter** (i.e. the April-June quarterly report is due by August 1st) each year. The Quarterly Report shall include the following:

1. Results of groundwater monitoring. The results of regular monthly monitoring reports for June, September and December may be incorporated into their corresponding quarterly monitoring report;

2. A narrative description of all preparatory, monitoring, sampling, and analytical testing

activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;

3. Calculation of groundwater elevations and discussion of seasonal trends, if any;

4. A narrative discussion of the analytical results for all groundwater locations monitored, including spatial and temporal tends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);

5. A comparison of the monitoring data to the groundwater limitations and an explanation of any violation of those requirements;

6. Summary data tables of historical and current water table elevations and analytical results;

7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and

8. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

An Annual Report shall be prepared as the December monthly monitoring report. The Annual Report shall include all monitoring data required in the monthly schedule. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of the regular monthly monitoring report for the last month of the year;

2. If requested by staff, tabular and graphical summaries of all data collected during the year;

3. Results of the effluent annual monitoring;

4. A description of activities to control vegetation in the leachfield area;

5. Annual summary of the septic tank inspections for the year, including the number of tanks for which cleaning and pumping occurred, and from compilation of Liquid Waste Hauler Manifests, the volumes of waste removed;

6. A statement of when the O&M Manual was last reviewed for adequacy, and a description of any changes made during the year;

7. A description of the annual evaluation of effluent distribution and adjustments made, if any;

8. A summary of maintenance and repair activities which were performed on the wastewater collection system;

9. A statement regarding whether the flow meter(s) were calibrated during the year;

10. Attached documents as verification of each operator's certification; and

11. A discussion of any compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain a statement by the discharger, or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete.

The Discharger shall implement the above monitoring program as of the date of this Order.

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PAMELA C. CREEDON, Executive Officer

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(Date)

JSK: 4/6/06